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RAW SEQUENCE LISTING

DATE: 07/25/2001

PATENT APPLICATION: US/09/901,938

TIME: 14:05:24

Input Set : A:\053884-5001.ST25.txt

Output Set: N:\CRF3\07252001\I901938.raw

ENTERED

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3 <110> APPLICANT: ECONS, Michael
4     WHITE, Kenneth
5     STROM, Tim
6     MEITINGER, Thomas
8 <120> TITLE OF INVENTION: NOVEL FIBROBLAST GROWTH FACTOR (FGF23) AND METHODS FOR USE
10 <130> FILE REFERENCE: 053884-5001
C--> 12 <140> CURRENT APPLICATION NUMBER: US/09/901,938
C--> 13 <141> CURRENT FILING DATE: 2001-07-10
15 <150> PRIOR APPLICATION NUMBER: 60/219,137
16 <151> PRIOR FILING DATE: 2000-07-19
18 <160> NUMBER OF SEQ ID NOS: 34
20 <170> SOFTWARE: PatentIn version 3.0
22 <210> SEQ ID NO: 1
23 <211> LENGTH: 1612
24 <212> TYPE: DNA
25 <213> ORGANISM: Homo sapiens
27 <400> SEQUENCE: 1
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30 aaaaggccag taaggcctgg gccaggagag tcccgacagg agtgtcagggt ttcaatctca      120
32 gcaccagcca ctacagagcag ggcaagatgt tgggggcccg cctcaggctc tgggtctgtg      180
34 ccttgtgcag cgtctgcagc atgagcgtcc tcagagccta tcccaatgcc tccccactgc      240
36 tcggctccag ctgggggtggc ctgatccacc tgtacacagc cacagccagg aacagctacc      300
38 acctgcagat ccacaagaat ggccatgtgg atggcgacc ccacagacc atctacagtg      360
40 cctgatgat cagatcagag gatgctggct ttgtggtgat tacagggtgtg atgagcagaa      420
42 gatacctctg catggatttc agaggcaaca tttttggatc acactatttc gacccggaga      480
44 actgcagggtt ccaacaccag acgctggaaa acgggtacga cgtctaccac tctcctcagt      540
46 atcacttctt ggtcagttct ggccggggcg agagagcctt cctgccaggc atgaaccac      600
48 ccccgtaact ccagttcctg tcccgaggga acgagatccc cctaattcac ttcaacaccc      660
50 ccataccacg gcggcacacc cggagcgccg aggacgactc ggagcgggac cccctgaacg      720
52 tgctgaagcc ccgggcccgg atgaccccgg ccccggcctc ctgttcacag gagctcccga      780
54 gcgcagagga caacagcccg atggccagtg acccattagg ggtggtcagg ggcggctcag      840
56 tgaacacgca cgctggggga acgggcccgg aaggctgcc ccccttcgcc aagttcatct      900
58 agggctcgtg gaagggcacc ctctttaacc catccctcag caaacgcagc tcttcccaag      960
60 gaccagggtc cttgacgttc cgaggatggg aaaggtgaca ggggcatgta tggaatttgc      1020
62 tgcttctctg ggggtccctc cacaggaggt cctgtgagaa ccaacctttg aggcccaagt      1080
64 catgggggtt caccgccttc ctactccat atagaacacc tttcccaata ggaaaccca      1140
66 acaggtaaac tagaaatttc cccttcatga aggtagagag aaggggtctc tcccaacata      1200
68 tttctcttcc ttgtgcctct cctctttatc acttttaagc ataaaaaaa aaaaaaaaaa      1260
70 aaaaaaaaaa aaaagcagtg ggttcctgag ctcaagaact tgaagggtgta gggaagagga      1320
72 aatcgagat cccagaagct tctccactgc cctatgcatt tatgttagat gccccgatcc      1380
74 cactggcatt tgagtgtgca aaccttgaca ttaacagctg aatggggcaa gttgatgaaa      1440
76 acactacttt caagccttcg ttcttctctg agcatctctg ggggaagagc gtcaaaagac      1500
78 tgggtgtagg ctggtgaaaa cttgacagct agacttgatg cttgctgaaa tgaggcagga      1560
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83 <210> SEQ ID NO: 2
84 <211> LENGTH: 251
85 <212> TYPE: PRT

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86 <213> ORGANISM: Homo sapiens

88 <400> SEQUENCE: 2

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90 Met Leu Gly Ala Arg Leu Arg Leu Trp Val Cys Ala Leu Cys Ser Val
91 1      5      10      15
93 Cys Ser Met Ser Val Leu Arg Ala Tyr Pro Asn Ala Ser Pro Leu Leu
94      20      25      30
96 Gly Ser Ser Trp Gly Gly Leu Ile His Leu Tyr Thr Ala Thr Ala Arg
97      35      40      45
99 Asn Ser Tyr His Leu Gln Ile His Lys Asn Gly His Val Asp Gly Ala
100     50     55     60
102 Pro His Gln Thr Ile Tyr Ser Ala Leu Met Ile Arg Ser Glu Asp Ala
103 65      70      75      80
105 Gly Phe Val Val Ile Thr Gly Val Met Ser Arg Arg Tyr Leu Cys Met
106      85      90      95
108 Asp Phe Arg Gly Asn Ile Phe Gly Ser His Tyr Phe Asp Pro Glu Asn
109      100     105     110
111 Cys Arg Phe Gln His Gln Thr Leu Glu Asn Gly Tyr Asp Val Tyr His
112      115     120     125
114 Ser Pro Gln Tyr His Phe Leu Val Ser Leu Gly Arg Ala Lys Arg Ala
115     130     135     140
117 Phe Leu Pro Gly Met Asn Pro Pro Pro Tyr Ser Gln Phe Leu Ser Arg
118 145     150     155     160
120 Arg Asn Glu Ile Pro Leu Ile His Phe Asn Thr Pro Ile Pro Arg Arg
121      165     170     175
123 His Thr Arg Ser Ala Glu Asp Asp Ser Glu Arg Asp Pro Leu Asn Val
124      180     185     190
126 Leu Lys Pro Arg Ala Arg Met Thr Pro Ala Pro Ala Ser Cys Ser Gln
127     195     200     205
129 Glu Leu Pro Ser Ala Glu Asp Asn Ser Pro Met Ala Ser Asp Pro Leu
130     210     215     220
132 Gly Val Val Arg Gly Gly Arg Val Asn Thr His Ala Gly Gly Thr Gly
133 225     230     235     240
135 Pro Glu Gly Cys Arg Pro Phe Ala Lys Phe Ile
136      245     250

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138 <210> SEQ ID NO: 3

139 <211> LENGTH: 1559

140 <212> TYPE: DNA

141 <213> ORGANISM: Mus sp.

143 <400> SEQUENCE: 3

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144 agcctgtctg ggagtgtcag atttcaaact cagcattagc cactcagtgc tgtgcaatgc      60
146 tagggacctg ccttagactc ctggtgggcg tgctctgcac tgtctgcagc ttgggcactg      120
148 ctagagccta tccggacact tccccattgc ttggctccaa ctggggaagc ctgaccacc      180
150 tgtacacggc tacagccagg accagctatc acctacagat ccatagggat ggtcatgtag      240
152 atggcaccgc ccacagacc atctacagtg cctgatgat tacatcagag gacgccggt      300
154 ctgtgggtgat aacaggagcc atgactcgaa ggttcctttg tatggatctc cacggcaaca      360
156 tttttggatc gcttcacttc agcccagaga attgcaagtt ccgccagtgg acgctggaga      420
158 atggctatga cgtctacttg tcgcagaagc atcactacct ggtgagcctg ggccgcgcca      480
160 agcgcattct ccagccgggc accaaccgcg cgcccttctc ccagttcctg gctcgcagga      540
162 acgaggtccc gctgctgcat ttctacactg ttgcgccacg gcgccacacg cgcagcgccg      600

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164 aggacccacc ggagcgcgac ccactgaacg tgctcaagcc gcgccccgc gccacgcctg 660
166 tgcctgtatc ctgctctcgc gagctgccga gcgcagagga aggtggcccc gcagccagcg 720
168 atcctctggg ggtgctgcgc agaggccgtg gagatgctcg cgggggcgcg ggaggcgcg 780
170 ataggtgtcg cccctttccc aggttctgtc aggtcccccag gccaggctgc gtccgcctcc 840
172 atcctccagt cggttcagcc cactgtagag aaggactagg gtacctcgag gatgtctgct 900
174 tctctccctt ccctatgggc ctgagagtca cctgcgaggt tccagccagg caccgctatt 960
176 cagaattaag agccaacggt gggaggctgg agaggtggcg cagacagttc tcagcaccca 1020
178 caaataacct taattctagc tccaggggaa tctgtactca cacacacaca catccacaca 1080
180 cacacacaca cacatacatg taattttaaa tgtaaatctg atttaaagac cccaacaggt 1140
182 aaactagaca cgaagctctt tttattttat ttactaaca ggtaaaccag acacttgcc 1200
184 tttattagcc gggctctctg cctagcattt taatcgatca gttagcacga ggaagaggt 1260
186 cagccttga acacagggaa gaggccatct ctgcagcttc tagttactat tctgggattc 1320
188 acgggtgttt gagtttgagc aocctgacct taatgtcttc actaggcaag tcgaagaaag 1380
190 acgcgcattt cttctctttg ggaagagctt tggattggcg ggaggctgac aaggacacct 1440
192 aaaccgaaca catttcagag ttcagcctcc ctgaggaatg attcgccaat gattctgtga 1500
194 taggaccagt cagtagcttt tgaatttgcc ctggctcagc aaagtctacc ttgctaggg 1559

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197 <210> SEQ ID NO: 4

198 <211> LENGTH: 251

199 <212> TYPE: PRT

200 <213> ORGANISM: Mus sp.

202 <400> SEQUENCE: 4

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205 1 5 10 15
207 Cys Ser Leu Gly Thr Ala Arg Ala Tyr Pro Asp Thr Ser Pro Leu Leu
208 20 25 30
210 Gly Ser Asn Trp Gly Ser Leu Thr His Leu Tyr Thr Ala Thr Ala Arg
211 35 40 45
213 Thr Ser Tyr His Leu Gln Ile His Arg Asp Gly His Val Asp Gly Thr
214 50 55 60
216 Pro His Gln Thr Ile Tyr Ser Ala Leu Met Ile Thr Ser Glu Asp Ala
217 65 70 75 80
219 Gly Ser Val Val Ile Thr Gly Ala Met Thr Arg Arg Phe Leu Cys Met
220 85 90 95
222 Asp Leu His Gly Asn Ile Phe Gly Ser Leu His Phe Ser Pro Glu Asn
223 100 105 110
225 Cys Lys Phe Arg Gln Trp Thr Leu Glu Asn Gly Tyr Asp Val Tyr Leu
226 115 120 125
228 Ser Gln Lys His His Tyr Leu Val Ser Leu Gly Arg Ala Lys Arg Ile
229 130 135 140
231 Phe Gln Pro Gly Thr Asn Pro Pro Phe Ser Gln Phe Leu Ala Arg
232 145 150 155 160
234 Arg Asn Glu Val Pro Leu Leu His Phe Tyr Thr Val Arg Pro Arg Arg
235 165 170 175
237 His Thr Arg Ser Ala Glu Asp Pro Pro Glu Arg Asp Pro Leu Asn Val
238 180 185 190
240 Leu Lys Pro Arg Pro Arg Ala Thr Pro Val Pro Val Ser Cys Ser Arg
241 195 200 205
243 Glu Leu Pro Ser Ala Glu Glu Gly Gly Pro Ala Ala Ser Asp Pro Leu
244 210 215 220

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246 Gly Val Leu Arg Arg Gly Arg Gly Asp Ala Arg Gly Gly Ala Gly Gly
247 225                230                235                240
249 Ala Asp Arg Cys Arg Pro Phe Pro Arg Phe Val
250                245                250
252 <210> SEQ ID NO: 5
253 <211> LENGTH: 17
254 <212> TYPE: PRT
255 <213> ORGANISM: Homo sapiens
257 <400> SEQUENCE: 5
259 Cys Ser Gln Glu Leu Pro Ser Ala Glu Asp Asn Ser Pro Met Ala Ser
260 1                5                10                15
262 Asp
265 <210> SEQ ID NO: 6
266 <211> LENGTH: 25
267 <212> TYPE: DNA
268 <213> ORGANISM: Homo sapiens
270 <400> SEQUENCE: 6
271 cgggatccac gatgttgggg gcccg                25
274 <210> SEQ ID NO: 7
275 <211> LENGTH: 25
276 <212> TYPE: DNA
277 <213> ORGANISM: Homo sapiens
279 <400> SEQUENCE: 7
280 ggaattccta gatgaacttg gcgaa                25
283 <210> SEQ ID NO: 8
284 <211> LENGTH: 21
285 <212> TYPE: DNA
286 <213> ORGANISM: Homo sapiens
288 <400> SEQUENCE: 8
289 ataccacggc agcacaccgc g                21
292 <210> SEQ ID NO: 9
293 <211> LENGTH: 21
294 <212> TYPE: DNA
295 <213> ORGANISM: Homo sapiens
297 <400> SEQUENCE: 9
298 ccgggtgtgc tgccgtggta t                21
301 <210> SEQ ID NO: 10
302 <211> LENGTH: 21
303 <212> TYPE: DNA
304 <213> ORGANISM: Homo sapiens
306 <400> SEQUENCE: 10
307 gcggcacacc tggagcgccg a                21
310 <210> SEQ ID NO: 11
311 <211> LENGTH: 21
312 <212> TYPE: DNA
313 <213> ORGANISM: Homo sapiens
315 <400> SEQUENCE: 11
316 tcggcgctcc aggtgtgccg c                21
319 <210> SEQ ID NO: 12

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Input Set : A:\053884-5001.ST25.txt

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320 <211> LENGTH: 21
321 <212> TYPE: DNA
322 <213> ORGANISM: Homo sapiens
324 <400> SEQUENCE: 12
325 cggcacaccc agagcgccga g
328 <210> SEQ ID NO: 13
329 <211> LENGTH: 21
330 <212> TYPE: DNA
331 <213> ORGANISM: Homo sapiens
333 <400> SEQUENCE: 13
334 ctcggcgctc tgggtgtgcc g
337 <210> SEQ ID NO: 14
338 <211> LENGTH: 139
339 <212> TYPE: PRT
340 <213> ORGANISM: Homo Sapiens
342 <400> SEQUENCE: 14
344 Leu Lys Gly Ile Val Thr Arg Leu Phe Ser Gln Gln Gly Tyr Phe Leu
345 1 5 10 15
347 Gln Met His Pro Asp Gly Thr Ile Asp Gly Thr Lys Asp Glu Asn Ser
348 20 25 30
350 Asp Tyr Thr Leu Phe Asn Leu Ile Pro Val Gly Leu Arg Val Val Ala
351 35 40 45
353 Ile Gln Gly Val Lys Ala Ser Leu Tyr Val Ala Met Asn Gly Glu Gly
354 50 55 60
356 Tyr Leu Tyr Ser Ser Asp Val Phe Thr Pro Glu Cys Lys Phe Lys Glu
357 65 70 75 80
359 Ser Val Phe Glu Asn Tyr Tyr Val Ile Tyr Ser Ser Thr Leu Tyr Arg
360 85 90 95
362 Gln Gln Glu Ser Gly Arg Ala Trp Phe Leu Gly Leu Asn Lys Glu Gly
363 100 105 110
365 Gln Ile Met Lys Gly Asn Arg Val Lys Lys Thr Lys Pro Ser Ser His
366 115 120 125
368 Phe Val Pro Lys Pro Ile Glu Val Cys Met Tyr
369 130 135
371 <210> SEQ ID NO: 15
372 <211> LENGTH: 139
373 <212> TYPE: PRT
374 <213> ORGANISM: Homo Sapiens
376 <400> SEQUENCE: 15
378 Leu Lys Gly Ile Val Thr Arg Leu Tyr Cys Arg Gln Gly Tyr Tyr Leu
379 1 5 10 15
381 Gln Met His Pro Asp Gly Ala Leu Asp Gly Thr Lys Asp Asp Ser Thr
382 20 25 30
384 Asn Ser Thr Leu Phe Asn Leu Ile Pro Val Gly Leu Arg Val Val Ala
385 35 40 45
387 Ile Gln Gly Val Lys Thr Gly Leu Tyr Ile Ala Met Asn Gly Glu Gly
388 50 55 60
390 Tyr Leu Tyr Pro Ser Glu Leu Phe Thr Pro Glu Cys Lys Phe Lys Glu
391 65 70 75 80

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VERIFICATION SUMMARY

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Input Set : A:\053884-5001.ST25.txt

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L:12 M:270 C: Current Application Number differs, Replaced Current Application Number

L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date